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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/689,146

10/20/2003

Thomas D. Kennedy

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2785

28236

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02/03/2005

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EXAMINER

AUGHENBAUGH, WALTER

ART UNIT

PAPER NUMBER

1772

DATE MAILED: 02/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/689,146

Applicant(s)

KENNEDY ET AL.

Examiner

Walter B Aughenbaugh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 24, 25, 27 and 29-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 24, 25, 27 and 29-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 8-25-04, 9-16-04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Acknowledgement of Applicant's Amendments***

1. The amendment made in claim 24 in the Amendment filed November 1, 2004 (Amdt. A) has been received and considered by Examiner.
2. New claims 29-36 presented in Amdt. A have been received and considered by Examiner.
3. The cancellation of claims 26 and 28 in Amdt. A has been acknowledged by Examiner.

### ***WITHDRAWN OBJECTIONS***

4. The objection to claim 28 made of record in paragraph 1 of the previous Office Action mailed August 4, 2004 has been withdrawn due to Applicant's cancellation of claim 28 in Amdt. A.

### ***WITHDRAWN REJECTIONS***

5. The 35 U.S.C. 112 rejection of claim 28 made of record in paragraph 3 of the previous Office Action mailed August 4, 2004 has been withdrawn due to Applicant's cancellation of claim 28 in Amdt. A.
6. The 35 U.S.C. 103 rejection of claims 24-26 and 28 made of record in paragraph 4 of the previous Office Action mailed August 4, 2004 has been withdrawn due to Applicant's amendment in claim 24 in Amdt. A (and, in regard to claims 26 and 28, Applicant's cancellation of claims 26 and 28 in Amdt. A).
7. The 35 U.S.C. 103 rejection of claim 27 made of record in paragraph 5 of the previous Office Action mailed August 4, 2004 has been withdrawn due to Applicant's amendment in claim 24 in Amdt. A.

***NEW REJECTIONS***

***Claim Rejections - 35 USC § 103***

8. Claims 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Speer et al. in view of Inoue et al. and in further view of Harvey et al.

In regard to claim 24, Speer et al. teach a multilayer film comprising a first layer comprising an oxygen scavenger layer, an oxygen barrier having an oxygen transmission rate of no more than 25 cc oxygen/m<sup>2</sup>/24hr and a second layer comprising an adhesive where the adhesive is adhered to the first layer (col. 11, lines 4-11 and 50-62 and col. 12, lines 31-35). Speer et al. teach the multilayer film in the form of a non-integral packaging component such as an adhesive sheet insert (i.e. a patch, col. 4, lines 8-14). Speer et al. teach that adhesive maleic anhydride modified polymers are suitable as the adhesive material (col. 9, lines 11-24).

Speer et al. fail to explicitly teach that the adhesive is a pressure sensitive adhesive and that an oxygen indicator comprising a luminescent compound is disposed on the second layer.

Inoue et al., however, teaches an article comprising both an oxygen indicator and an oxygen scavenger (col. 3, lines 35-41 and col. 4, lines 9-19). The oxygen indicator of Inoue et al. is used to indicate the presence or absence of oxygen based on the color of the indicator (col. 1, lines 15-20 and col. 8, lines 50-64). Inoue et al. teach that the oxygen indicator includes a dyestuff selected from the group consisting of thiazine dyestuffs, indigo dyestuffs and mixtures thereof (col. 1, lines 55-64). Thiazine dyestuffs are luminescent, as evidenced by Miyasaka et al. (enclosed with this Office Action), which discloses that thiazine dyes are suitable light-harvesting dyes (col. 6, lines 23-31), which are defined by Miyasaka et al. as luminescent (col. 4, lines 3-4). Inoue et al. teach that the oxygen indicator composition includes an adhesive binder

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(col. 3, line 48-col. 4, line 3) and is printed on a substrate such as the inside of a transparent film having an oxygen barrier property (col. 4, lines 9-19). Inoue et al. teach that the oxygen indicator is printed on a film (col. 3, lines 35-41), consequently forming an image. It is well known to those of ordinary skill in the art that indicators are often printed onto film substrates in a discontinuous manner/pattern in order to make use of the indicator in an economical manner. The print pattern of the indicator is a matter of aesthetics and is a choice of the appearance of the final product; there is no criticality to the issue of patentability in regard to the geometry of the indicator print pattern (image). Therefore, one of ordinary skill in the art would have recognized to have printed the indicator layer of Inoue et al. as a printed image on the adhesive layer of Speer et al. in order to utilize the indicator to determine the amount of oxygen that permeates through the barrier layer of Speer et al. to the inside of the article as taught by Inoue et al.

Furthermore, in regard to the "pressure sensitive adhesive" recitation, Harvey et al. disclose a pressure sensitive adhesive that is coated onto polymeric films to form articles such as labels, marking films, etc. (col. 4, line 61-col. 5, line 3). Harvey et al. disclose that the pressure sensitive adhesive comprises maleic anhydride (col. 8, lines 36-49 and 55-59). Therefore, one of ordinary skill in the art would have recognized to have used the pressure sensitive adhesive comprising maleic anhydride taught by Harvey et al. as the maleic anhydride modified polymer adhesive of Speer et al. since the pressure sensitive adhesive comprising maleic anhydride taught by Harvey et al. is a notoriously well known pressure sensitive adhesive material for use in articles such as labels, marking films, etc. (e.g. the adhesive sheet inserts taught by Speer et al.) as taught by Harvey et al.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have printed the indicator layer of Inoue et al. as a printed image on the adhesive layer of Speer et al. in order to utilize the indicator to determine the amount of oxygen that permeates through the barrier layer of Speer et al. to the inside of the article as taught by Inoue et al. and to have used the pressure sensitive adhesive comprising maleic anhydride taught by Harvey et al. as the maleic anhydride modified polymer adhesive of Speer et al. since the pressure sensitive adhesive comprising maleic anhydride taught by Harvey et al. is a notoriously well known pressure sensitive adhesive material for use in articles such as labels, marking films, etc. (e.g. the adhesive sheet inserts taught by Speer et al.) as taught by Harvey et al.

In regard to claim 25, Speer et al. teach that the barrier layer is polyvinylidene chloride (PVDC) or ethylene vinyl alcohol copolymer (EVOH) (col. 11, lines 30-31).

9. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Speer et al. in view of Inoue et al. and in further view of Harvey et al. and in further view of Khalil et al.

Speer et al., Inoue et al. and Harvey et al. teach the patch as discussed above. Speer et al., Inoue et al. and Harvey et al. fail to teach that the luminescent compound comprises at least one material selected from the group consisting of metallo derivatives of octaethylporphyrin, tetraphenylporphyrin, tetrabenzoporphyrin, or the chlorins, bacteriochlorins, or isobacteriochlorins thereof. However, Khalil et al. teach that metallo derivatives of partially or fully fluorinated octaethylporphyrin, tetraphenylporphyrin, tetrabenzoporphyrin, or the chlorins, bacteriochlorins, or isobacteriochlorins thereof are suitable luminescent molecules for use in the method for measuring oxygen concentration of Khalil et al. (col. 2, lines 46-63). Therefore, one of ordinary skill in the art would have recognized to have used octaethylporphyrin, tetraphenylporphyrin,

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tetrabenzoporphyrin, or the chlorins, bacteriochlorins, or isobacteriochlorins thereof as the luminescent molecule of Speer et al., Inoue et al. and Harvey et al. since Khalil et al. disclose that these molecules are suitable for use for measuring oxygen concentration.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used octaethylporphyrin, tetraphenylporphyrin, tetrabenzoporphyrin, or the chlorins, bacteriochlorins, or isobacteriochlorins thereof as the luminescent molecule of Speer et al., Inoue et al. and Harvey et al. since Khalil et al. disclose that these molecules are suitable for use for measuring oxygen concentration.

10. Claims 29-31 and 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Speer et al. in view of Inoue et al.

In regard to claims 29 and 33, Speer et al. teach a multilayer film comprising a first layer comprising an oxygen scavenger layer, an oxygen barrier having an oxygen transmission rate of no more than 25 cc oxygen/m<sup>2</sup>/24hr and a second layer comprising an adhesive where the adhesive is adhered to the first layer (col. 11, lines 4-11 and 50-62 and col. 12, lines 31-35). Speer et al. teach the multilayer film in the form of a non-integral packaging component such as an adhesive sheet insert (i.e. a patch, col. 4, lines 8-14). Speer et al. fail to teach that an oxygen indicator comprising a luminescent compound is disposed on the second layer.

Inoue et al., however, teaches an article comprising both an oxygen indicator and an oxygen scavenger (col. 3, lines 35-41 and col. 4, lines 9-19). The oxygen indicator of Inoue et al. is used to indicate the presence or absence of oxygen based on the color of the indicator (col. 1, lines 15-20 and col. 8, lines 50-64). Inoue et al. teach that the oxygen indicator includes a dyestuff selected from the group consisting of thiazine dyestuffs, indigo dyestuffs and mixtures

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thereof (col. 1, lines 55-64). Thiazine dyestuffs are luminescent, as evidenced by Miyasaka et al. (enclosed with this Office Action), which discloses that thiazine dyes are suitable light-harvesting dyes (col. 6, lines 23-31), which are defined by Miyasaka et al. as luminescent (col. 4, lines 3-4). Inoue et al. teach that the oxygen indicator composition includes an adhesive binder (col. 3, line 48-col. 4, line 3) and is printed on a substrate such as the inside of a transparent film having an oxygen barrier property (col. 4, lines 9-19). Inoue et al. teach that the oxygen indicator is printed on a film (col. 3, lines 35-41), consequently forming an image. It is well known to those of ordinary skill in the art that indicators are often printed onto film substrates in a discontinuous manner/pattern in order to make use of the indicator in an economical manner. The print pattern of the indicator is a matter of aesthetics and is a choice of the appearance of the final product; there is no criticality to the issue of patentability in regard to the geometry of the indicator print pattern (image). Therefore, one of ordinary skill in the art would have recognized to have printed the indicator layer of Inoue et al. as a printed image on the adhesive layer of Speer et al. in order to utilize the indicator to determine the amount of oxygen that permeates through the barrier layer of Speer et al. to the inside of the article as taught by Inoue et al.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have printed the indicator layer of Inoue et al. as a printed image on the adhesive layer of Speer et al. in order to utilize the indicator to determine the amount of oxygen that permeates through the barrier layer of Speer et al. to the inside of the article as taught by Inoue et al.

In further regard to claim 29, the oxygen indicator taught by Inoue et al. is necessarily not coextensive with the second (adhesive) layer of Speer et al. in the instance where the indicator is



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printed onto the second (adhesive) layer of Speer et al. in a discontinuous manner/pattern in order to make use of the indicator in an economical manner or an aesthetical manner as discussed above.

In further regard to claim 33, the patch (the adhesive sheet insert of Speer et al., col. 4, lines 9-14) taught by Speer et al. and Inoue et al. is adapted to be adhered, by means of the adhesive, to a packaging material because Speer et al. teach an adhesive sheet, which necessarily has an outer adhesive layer and which therefore is adapted to be adhered to a packaging material via the adhesive. N.B. It has been held that the recitation that an element is “adapted to” perform a function is not a positive limitation but only requires the ability to so perform. *In re Hutchinson*, 69 USPQ 138.

In regard to claims 30 and 34, Speer et al. teach that the barrier layer is polyvinylidene chloride (PVDC) or ethylene vinyl alcohol (EVOH) (col. 11, lines 30-31).

In regard to claims 31 and 35, hot melt adhesives fall within the scope of the anhydride functional adhesive polyolefins taught by Speer et al. (col. 9, lines 10-24) as evidenced by, e.g., col. 3, lines 62-64 of U.S. 5,912,090 to Nagai et al.

11. Claims 32 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Speer et al. in view of Inoue et al., and in further view of Khalil et al.

Speer et al. and Inoue et al. teach the patch as discussed above. Speer et al. and Inoue et al. fail to teach that the luminescent compound comprises at least one material selected from the group consisting of metallo derivatives of octaethylporphyrin, tetraphenylporphyrin, tetrabenzoporphyrin, or the chlorins, bacteriochlorins, or isobacteriochlorins thereof. However, Khalil et al. teach that metallo derivatives of partially or fully fluorinated octaethylporphyrin,

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tetraphenylporphyrin, tetrabenzoporphyrin, or the chlorins, bacteriochlorins, or isobacteriochlorins thereof are suitable luminescent molecules for use in the method for measuring oxygen concentration of Khalil et al. (col. 2, lines 46-63). Therefore, one of ordinary skill in the art would have recognized to have used octaethylporphyrin, tetraphenylporphyrin, tetrabenzoporphyrin, or the chlorins, bacteriochlorins, or isobacteriochlorins thereof as the luminescent molecule of Speer et al. and Inoue et al. since Khalil et al. disclose that these molecules are suitable for use for measuring oxygen concentration.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used octaethylporphyrin, tetraphenylporphyrin, tetrabenzoporphyrin, or the chlorins, bacteriochlorins, or isobacteriochlorins thereof as the luminescent molecule of Speer et al. and Inoue et al. since Khalil et al. disclose that these molecules are suitable for use for measuring oxygen concentration.

#### ***ANSWERS TO APPLICANT'S ARGUMENTS***

12. Applicant's arguments presented on pages 5-6 of Amdt. A regarding the 35 U.S.C. 103 rejection of claims 24-26 and 28 over Speer et al. in view of Inoue et al. are moot due to the withdrawal of the rejection in this Office Action. N.B. Applicant argues that the adhesive of Inoue et al. is not a pressure sensitive adhesive, but Speer et al. is relied upon for a teaching of the previously claimed adhesive in the withdrawn 35 U.S.C. 103 rejection of claims 24-26 and 28 over Speer et al. in view of Inoue et al.

13. Applicant's arguments presented on page 6 of Amdt. A regarding the 35 U.S.C. 103 rejection of claim 27 over Speer et al. in view of Inoue et al. and in further view of Khalil et al. are moot due to the withdrawal of the rejection in this Office Action.

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14. Applicant's arguments presented on pages 6-7 of Amdt. A regarding the applicability of the previously cited references to the new claims have been fully considered but are not persuasive. Applicant argues that the indicator and adhesive of Inoue et al. are necessarily coextensive because the indicator and adhesive of Inoue et al. are mixed to form a single layer, but Speer et al. is relied upon for a teaching of the claimed second layer comprising an adhesive, and Inoue et al. is relied upon for a teaching of the claimed indicator, so the adhesive of the indicator of Inoue et al. is not relied upon as the claimed second layer comprising an adhesive. In regard to Applicant's arguments regarding the "adapted to be adhered..." recitation of claim 33, the patch (the adhesive sheet insert of Speer et al., col. 4, lines 9-14) taught by Speer et al. and Inoue et al. is adapted to be adhered, by means of the adhesive, to a packaging material because Speer et al. teach an adhesive sheet, which necessarily has an outer adhesive layer and which therefore is adapted to be adhered to a packaging material via the adhesive.

### *Conclusion*

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter B. Aughenbaugh whose telephone number is 571-272-1488. The examiner can normally be reached on Monday-Thursday from 9:00am to 6:00pm and on alternate Fridays from 9:00am to 5:00pm.

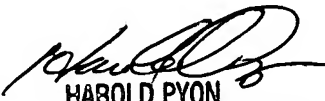
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Walter B. Aughenbaugh

01/31/05

WBA

  
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SUPERVISORY PATENT EXAMINER  
1772

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